1: Burrows--46 (1947-48) Woleaians
116, 335, 342 Ifalik

"The term for master-craftsman, sennap, may be applied to builders of dwellings (sennap a l'im) and experts in repairing public buildings (sennap a li gasu van or sennap a li gatchu li fal). But there seems to be some doubt about who deserves these titles. Tom once said there were recognized master-builders; but later, when asked to name them, contradicted his previous statement. 'Everybody savvy', he explained. When the same question was put to the chief, Maroligar, he gave three names; then added 'I think, Totogoeiti (Tom's native name); and finally, when pressed--for he supervised repairs on public buildings in Rauau--admitted he was one himself. After further consideration, he said that three-Toroman, Maroligar and Totogoeiti--were big experts. Three others--Wolpetau, GauaisIg, Arovalimen--were less advanced. If Tom contradicted himself, Maroligar at least wavered."

1: Burrows--47 (1947-48) Woleaians
116, 343, 285, 335 Ifalik

"Cook-sheds and canoe houses have no walls, but dwellings are almost completely walled in by panels of coconut leaf, plaited in twill. These can be unfastened and slid aside, making a door wherever one is wanted. They are called gili. The same name is used for the smaller of two sizes of sitting mat made to spread on the coral gravel of the floors. These gili are plaited from two halves of a leaf in the same way as thatch sheets. But the leaf is cured, the leaflets doubled before plaiting, and the plaiting carried nearly to their tips, then finished off in a braid. A wider floor-mat, called topoxau, is made more like a ridge sheet; but the two split halves are laid with their bits of midrib in the middle, and the two sides are finished with braids.

The most ingenious feature of construction, particularly in canoe-houses, is the rounded gable. A ridged roof, thatched only on two sides, is not enough to provide shelter in a wet country. Something must be done to keep rain from entering at the ends, when the wind blows in. The solution traditional in Ifalik is, first, to extend the ridge-pole at both ends, and slant the end rafters out to the ends of the ridge-pole, so that the peak of the roof overhangs; second, to build rounded extensions under the peak at both ends. These, covered with thatch, give the ends of the building as good protection from rain as the long sides. (Pl. 2a; Fig. 5)"

1: Burrows--47 (1947-48) Woleaians
116, 342, 285, 335 Ifalik

"As already noted in enumerating the uses of coconut, the roofs of all buildings are covered with coconut-leaf thatch. This is not so durable as thatch of the leaves of pandanus, sugar-cane, or sago, all of which are used on native houses in some Pacific islands. But there is no sago on Ifalik, and not enough pandanus or sugar-cane to go around. When thatch of coconut-leaf begins to leak it can be replaced fairly easily.

To make thatch (aso) each leaf is split down the middle. Each half of the midrib is trimmed to lighten it. The two halves are laid together, with the half-midribs on the same side, and the leaflets plaited in simple check for about half their length. The thatch sheets so made are laid out in the sun for three or four days to begin drying, before they are put on. Some are more thoroughly sun-cured and are then called aso gili. In thatching a roof, the sheets are tied to the rafters, beginning at the eaves and working upwards. The lower side of each sheet hangs free, overlapping the sheet below. Special sheets are made for the ridge by using one leaf unsplit, and plaiting the halves of a split leaf on each side of it, with their half-midribs outward. This makes a ridge-sheet with a whole midrib along the middle, and a half-midrib along each edge."

1: Burrows--47-48 (1947-48) Woleaians
116, 342, 335 Ifalik

"In a cook-shed or dwelling, the rounded end is supported by one or two small posts; commonly one in a cook-shed, two in a dwelling. In the most [48] carefully built dwellings, in which the stringers are hewn square (and in that case called goragu), the purlins under the rounded ends are also squared, and fitted to the stringers with overlapping joints."

1: Burrows--48 (1947-48) Woleaians
116, 343, 335, 401, 284 Ifalik

"In a canoe-house, however, the ends can not be obstructed with posts, for that would prevent carrying canoes in and out. The manner in thich [sic] the rounded gable is suspended, without supporting posts, is shown in Figure 5. In the first place, the whole structure is lightly built. The eave purlins are not squared beams, but light, flexible withes. Purlins and rafters of the rounded end are lashed to purlins and rafters of the long sides, which take up some of the weight. The rest is supported on two beams (numbered 6 in the figure). Their projecting ends converge under one of the purlins of the rounded extension. Their inner portions rest on tie beams, and the inner ends are fastened by a lashing of stout rope to the stringers below them. This lashing is not very massive, and apparently carries no great weight. It will be seen that both the extension of the peak of the roof, and the suspension of the gable on overhanging beams, involve application, though not in a very bold form, of the principle of the cantilever."

1: Burrows--48 (1947-48) Woleaians
116, 335, 345, 532 Ifalik

"The construction of the men's house (fan nap) is shown in Figure 6. It has several distinctive features. The ridge-pole is supported, not by a king post resting on a tie-beam, but by a row of middle posts. The two posts under the ends of the ridge-pole are squared, and the one under the front end is decorated with paintings and a phallic carving (Pl. 4, a). The corner posts are slabs of beach sandstone. The gable ends are filled by vertical walls extending from the peak to the height of the eaves. These walls are covered with coconut leaf, applied in a different way from the thatch of a roof. The lower ends of the leaves are bound in with wooden battens, producing a flat, smooth surface, instead of the shaggy one of a thatched roof, in which the lower ends of the leaves hang free."

1: Burrows--49-50 (1947-48) Woleaians 1-3
116, 358, 483, 401, 335 Ifalik

"Although no large buildings were constructed during our stay, techniques of lifting massive timbers into position were exemplified by replacement of beams in two canoe-houses. In October a huge breadfruit log, more than two feet in diameter and sawed through at one end, drifted ashore from parts unknown. Such figts of the sea are the main source of supply for corner-posts of the canoe-houses. It was decided to use this one to replace a rotting post in the canoe-house called Fale Pënga.

First the log was rolled ashore. Poles or light logs were thrust under it on the landward side to serve as skids. Similar posts were used on the seaward side as levers.

The hole in which the old post stood was now widened by digging on the outer side. Temporary supports for the roof at this corner were lashed together and put in position. The type of support used is shown in Fig. 7, a. At first the upper ends of the two pairs of uprights slanted toward each other at a considerable angle, greater than that shown in the sketch.

A double lever (Fig. 7, b) was now made of coconut logs to hoist the roof. There was room enough for more than a dozen men to work on it at a time. Their efforts were coordinated by a responsive song or chantey. As the sketch shows, the lift was transmitted to the stringer of the house through a crosspiece and upright post.

The height gained by each lift of the lever was secured by moving the lower ends of the supports toward each other, making the uprights more nearly vertical. The crosspieces at the base, to prevent them from slipping out again, were then repegged in the

new position. With the supports in position to take the weight of the roof, the lever was released and made ready for another lift by moving the fulcrum a little nearer the raising end. When the roof was high enough to give the necessary clearance to the corner posts, the supports were pegged in a final, nearly vertical position. They were then supplemented by a log cut to just the right length and set upright under the stringer a little in from the supports.

With the roof securely out of the way, the post to be replaced was removed. A heavy line, made up of six strands of the large size of sennit rope used for morring[sic] canoes, was fastened around its upper end. A fairly light pull on this was enough to topple the upper end of the post out from under the roof, so that its outer side rested against the side of the hole. It was then taken out of the hole by hauling on the line. This was the stage of the job requiring the greatest application of power. The haul on the line was supplemented by prying on levers thrust under the inside of the post (Fig. 4, c). At one time 39 men were hauling on the line. At the crucial moment some of [50] the women, who had been looking on and encouraging the workers, took a hand themselves. To prevent the post from slipping back while the workers paused for breath, the line was snubbed around two trees, passing from left to right around one of them, from right to left around the other (Fig. 7, d).

The new post, it now appeared, was a little longer than the old one. The hole for it was dug deeper, an easier task than cutting through the massive post again with axes

and hand saws. As the hole was deepened, it began to fill with water. The prospect of the water rotting the post at the bottom did not disturb anyone. When the hole had reached the necessary depth, one end of the new post was hauled into position over the hole. The other end was raised by the same techniques of prying on levers and hauling on a line that had served to remove the old one. The bottom of the post slid into the hole. It was then carefully lowered into the same position the old one had occupied. By holding the roof with the big lever while the bases of the supports were spread apart, a little at a time, the roof was gradually lowered back into position. The hole about the post was filled in and tamped. The temporary supports were removed, and the task was finished.

The whole process made nearly a full day's work for all the available men of Rauau district. It was done in the afternoon of one day and the morning of the next. Men were coming and going every now and then, so no one figure would give the number of workers accurately. The largest number actually busy at any one moment would be the 39 counted hauling on the line, plus three or four more with levers."

"Another repair job, requiring somewhat different techniques, became necessary in December, when the stringer that held up one side of the canoe-house Sabwōlap broke in two. Coconut logs, the only timber available for these long stringers, are not well adapted to the purpose. As their centers are rather pithy, the lateral stress imposed by the weight of the roof must be taken mostly by the thin shell of hard wood on the outside. Squared beams of a solider wood form the stringers of the men's house; but there are not enough logs of the necessary length to supply these for the canoe-houses.

In order to take out the broken stringer and replace it with another coconut log, it was necessary to raise one whole side of the roof. Accordingly, a row of temporary supports was required, instead of the pair that had sufficed for the corner-post replacement. But they were of lighter construction: pairs of light logs, crossed like an X, and held together with lashings at the top middle, and bottom (Fig. 8, a). Light logs, lashed under the rafters to take the weight of the roof while the stringer was being replaced, rested in the upper lashing of the X supports. The lower lashings helped to prevent spreading and settling. They were reinforced by pegs driven in at the base.

The roof was lifted, bit by bit, by means of a lever of coconut log. Since only part of the roof was raised at a time, a single log served for a lever, instead of the pair used on the corner-post job. The vertical post that transmitted the thrust of the lever to the roof rested at the bottom in a notch cut in this log. At the top it was lashed under one of the logs that temporarily supported the roof. The height gained by each lift was taken

up by narrowing each of the X supports tightening their lashings, and shifting the pegs (Fig. 8, b). Elderly men and boys worked on the supports, while young men at the height of [51] their strength worked on the lever. Getting the roof tilted to the necessary height, by many repetitions of this process, took about half a day.

The new stringer was now lifted into position. First each end of it was lifted upon a post, which leaned against a pile of crossed logs about waist high (Fig. 8, c). Then the ends were lashed to these posts at the point which would bring the new stringer into position on top of the corner-posts when the supporting posts were vertical. Long, stout lines were attached at each end. The log was now raised into position, with all available men hauling on the lines. At first a few lifted by hand on the ends of the log. At the hardest part of the pull, women, too, took a hand on the lines.

By releasing the lashings gradually, the new stringer was settled into position on the corner posts. Then the roof was let down on it gradually by reversing the process used to lift it; that is, it was held with the lever while the X supports were widened, then let down into the new position.

The stress of tilting and lowering the roof was too much for a tie-beam that supported one of the king-posts. It broke just as the roof was being settled into place. Apparently this piece of hard luck was not altogether unexpected; at least the men took it with good-natured resignation. Another lifting and lowering job was now required in order to replace the tie-beam.

1: Burrows--50-51 (1947-48) Woleaians-3
116, 358, 401, 483, 335 Ifalik

A log of pandanus, cut to reach exactly from the ground to the ridge-pole, was set up as a temporary substitute for the king-post. (This temporary structure was of the same type as that used permanently to support the ridge-pole of the men's house.) It was set up on a slant at first, then gradually raised into vertical position as the roof was lifted. This was done with levers and X supports, as before, except that a new type of lever was brought into use. A scaffold was built, consisting of four uprights, with crosspieces lashed to them at various heights. These cross-pieces served as fulcrums for the lever, higher ones being used as the roof gained height. Small supplementary levers were used part of the time. When the roof was raised clear, the new tie-beam was lifted into place by the same technique as that used for the stringer. The king post, a comparatively light piece, was passed up by hand to men standing on the tie-beam. Supplementary uprights were set up under the new tie-beam. These, and the temporary post holding up the ridge-pole, were left in place for several days, in case the new tie-beam was too weak for its load. When it proved to be adequate, the temporary supports were removed."

4: Krämer--185
116, 226, 335, 462

(1909) 1937

Woleaians
Woleai

Fishing is the main occupation of the men in addition to the construction of houses and canoes. It is practiced inside the lagoon and on the high seas. The implements used are spears, and fishing lines, traps, and nets that are laid out on fishing banks.

28: Spiro--74 [3] (1947-48) 1949 Woleaians
116, 776, 782, 335 Ifalik

"Alulumas, the patron saint of the house carpenters, receives a io-io at the completion of any construction job. He, too, receives two io-io, one of coconut and one of food. When the men drink the coconuts that are distributed after each construction work, the juice that squirts out of the nut as it is opened is accounted as a io-io, and the chief carpenter on the job asks, Alulemes that if 'I fix another one, no fall down on me. Now I finish one, I give you this coconut.'

When the men gather again for the customary feast, one or two days after the completion of the work, a portion of fish and taro is wrapped in a leaf, and placed in the ocean as a io-io to Alulemes, and the same words or words to that effect are uttered."